

COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM

February 22, 2006 Meeting and
Updates on the IT/TMT Call on 2/24 & the 2/27 TMT Call

FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Donna Silverberg

Notes: Robin Harkless

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

Comments on Notes

No comments on the February facilitator notes or official minutes were provided at this time.

Columbia River System Flood Control Review Recon Report

Lonnie Mettler, COE, presented a power point on the COE's Reconnaissance Report for a system flood control study. The report has been out for review since early February, and the closing date for comments is March 13. See TMT notes below for write up
A report on the COE's Flood Control Study is also on the agenda for the March 2nd IT meeting.

Dworshak Flood Control Shift to Grand Coulee

The COE asked the salmon managers about their preference for shifting flood control to Grand Coulee from Dworshak. This issue was discussed at an FPAC meeting, and the salmon managers do support the shift. This will not likely pose any issues until March – the COE will provide models incorporating the shift at the March 8 TMT meeting.

Update: During a conference call on February 27, Russ Kiefer, chair of FPAC, reported that FPAC would like to review data at their conference call on February 28, and that he would share the 'official recommendation' from FPAC about whether to shift flood control from Dworshak to Grand Coulee, with Cathy Hlebechuk following that discussion. He will also share the recommendation at the March 8 TMT meeting.

Spring Creek Hatchery Release, SOR 2006-1

(Note: TMT was not able to reach resolution on SOR 2006-1 during today's meeting. The following description was taken directly from a memo sent to the IT to aid in their discussion about the SOR, which occurred via a conference call on 2/24.)

Issue Elevated from TMT to IT **Wednesday February 22, 2006**

ISSUE: Policy level involvement is needed to clarify whether or not spill should be utilized in the 2006 Spring Creek Hatchery release scheduled for March 2, 2006. Due to prior agreements

at the policy level, the technical group was unable to resolve the question listed at the end of this memo.

BACKGROUND:

“In an e-mail from Greg Delwiche (BPA) on February 26, 2004 to Witt Anderson (COE) and Bill Shake (USFWS), an agreement was reached in support of a two-treatment evaluation in which the effectiveness of spill, as compared to operation of the new B2 corner collector (B2CC), was to be evaluated for two release groups of tule smolts from Spring Creek National Fish Hatchery in March 2004.

The parties agreed to "... a committment (sic) to no spill for March Spring Creek releases in 2005 and 2006unless we see significant (sic) problems with the new B2 corner collector, in which case we will revisit 2005 and 2006 operations for the March hatchery release." The Service “commitment” to no spill in 2005 and 2006 was predicated on the fact that the B2CC would be available and functional for the March release in 2005 and 2006 and that its efficiency at moving fish over the dam would be similar to the spillway operations.

The hydroacoustic evaluation of fish passage in March 2004 (Table 2, Ploskey et al. 2005) provided indications that the B2CC operation may not be comparable to past spill operations in fish passage efficiency (FPE) and FPE goals established for the region are not being achieved. Fish passage efficiency is defined as the proportion of fish passing the dam via routes other than turbine passage. An 85 % FPE goal was established at Bonneville Dam in the 1984 amendments to the Columbia Basin Fish and Wildlife Program by the Northwest Power Planning Council (NWPPC 1984), now called the Northwest Power and Conservation Council (NPCC). This goal was established before the first salmonids in the Columbia Basin were listed under the ESA in 1992. The 1995 FCRPS BiOp (NMFS 1995) established a spill program to pass 80% of downstream migrants through non-turbine routes, or an FPE of 80%. The first ESA listing of a salmonid in the Columbia Basin was in 1992.

The 2004 evaluation indicated that the FPE for Spring Creek fish during the operational periods for “spill only” (50,000 cfs, actual spill 24,000cfs) and “B2CC only” were 54% and 45%, respectively, both below the goal of 85% FPE and a difference of 9% between operational tests. The spill passage efficiency (SPE), defined as the proportion of the total test population passed by the specific operational mode, for the “spill only” operation was 23%, and the SPE for the “B2CC only” operation was 17%. It was revealed after the 2004 operation that a spill gate calibration error (that had existed for years) resulted in false readings for the amount of spill. The corrected spill level was actually about 24,000 cfs.”

(Excerpt from SOR #2006-1, page 4. Please also see the table on the same page for further information. We were unable to successfully transfer the table from the PDF file)

Question for IT: Does the difference in the Fish Passage Efficiency noted in the 2004 hydroacoustic test results pose a “significant problem” which warrants spill this year?

There was not agreement about this at the technical level and a request was made to elevate the issue for policy level consideration.

(Note: The technical difference is 9% FPE. The first adult survival numbers will not be known until fall 2006 or later).

This issue statement was agreed to by those present at today's TMT meeting and prepared by the facilitation team for IT's review and resolution on Friday, February 24, 2006.

UPDATE: During the **IT call 2/24**, parties to the SOR including USFWS, WDFW, ODFW, NOAA and CRITFC recommended that the Fish Passage Efficiency metric be used to determine how to implement operations for the Spring Creek hatchery release. They went on to say that given the 9% FPE difference between the spillway and corner collector, spill would be the best operation to support the fish. WA and CRITFC stressed the importance of these Spring Creek hatchery stock for fishing interests and expressed concern with the unknowns around putting the juveniles through the system without spill.

The COE agreed that the Spring Creek hatchery stock is very important as a mitigation stock and shared a desire to implement an operation that supports the fish. However, the COE thinks that past numbers of system passage with and without spill suggests that operating the corner collector with no spill would be the most appropriate operation for this year. This, combined with the prior agreement to not spill this year, leads them to a no spill operation. BPA agreed with the COE and the BOR had no position.

ACTION: The COE will implement the operation with no spill. TMT was asked to confer on Monday with the specifics of the operation. While there was not agreement on the issue, it was not elevated to the regional executives.

2006 Columbia River Fall Chinook Forecasts

The 2006 forecast for Fall Chinook is 464,000 which indicates a continuing downward trend. The numbers will be updated as the season progresses, and Cindy LeFleur, WDOE, will report on the forecasts to TMT.

Water Management Plan

Comments on the full 2006 plan are welcome. The COE anticipated finalizing the Fall/Winter update this afternoon as discussed at February 1 meeting. TMT was requested to provide any final input to the Fall/Winter update by the end of today, which COE would include in the final plan. It was recognized the update would be revised as new forecasts were developed monthly. The salmon managers provided a revised Category 3 emergency protocols list, which the action agencies accepted, but for one minor change: the word 'Transmission' in the title will be changed to 'System'. This document will be posted to the TMT web page.

Status of Fish Transport Permit from NOAA

Paul Wagner reported that NOAA is currently reviewing a proposal from the COE to extend its fish transport permit by one year. Language in the new BiOp would also reflect this change, in effect extending the permit for the life of the BiOp. A suggestion was made that NOAA and the COE need to ensure this discussion is happening during discussions of the remand.

Status of Lower Snake Dredging

Cathy Hlebechuk, COE, reported that in-water dredging work in the Lower Snake is expected to be completed in February, and the COE expects to operate the Lower Snake projects at MOP this spring.

Status of Bonneville Corner Collector/Pit Tag Detection System

The corner collector and pit tag detection system work at Bonneville is on schedule and expected to be operating with screens in place and full flow bypass for the March 2 Spring Creek hatchery release.

Ice Harbor Balloon Tag Study

The Walla Walla District COE will be conducting a study in March to determine fish injury from deflector actions at different tailwater elevations. The test will be conducted March 5-8 and 13-23, with a pre-test on March 1 and 2. The COE is coordinating the test through FFDRWG and with the other action agencies. They will be using the Hep-Raz model for this test at all of the Lower Snake projects.

Spill at the Dalles During Wire Rope Replacement

As follow-up from the last TMT meeting, Cathy Hlebechuk, reported that because there will be limitations to spilling through bays 7-9 during wire rope replacement, if total flow exceeds 315 kcfs, other bays will need to be used to meet 40% spill at The Dalles per the BiOp. The COE is coordinating with FPOM and FFDRWG to determine the most appropriate bays through which to provide spill, if necessary. Bays 7-9 will come back on line, one at a time, April 10-May 15.

NOAA suggested that splitting spill between different bays may not provide a benefit to the fish, so posed an alternative option: reduce the volume of spill if necessary. There will be further discussion of this issue at the March 8 TMT meeting.

ACTION: Cathy Hlebechuk will provide an issue paper on this matter to the TMT for review prior to the next meeting.

Operations Review

Reservoirs – Grand Coulee was at elevation 1261.5'. Hungry Horse was at 3532' and drafting 7.5 kcfs, expecting to ramp down to 4 kcfs soon. Libby was at 2411.3' with an end of February flood control elevation target of 2412.1'. Dworshak was at 1525.9' and targeting 1524.2' end of February elevation; the project was releasing 8 kcfs. Bonneville released 165-195 cfs over the past week.

Fish – Nothing to report at this time.

Power system – Nothing to report at this time.

Water quality – Nothing to report at this time.

TMT Meeting Schedule

TMT meetings are scheduled for March 8 and 22, and April 5 and 19. These dates are subject to change. Check the TMT web page for updates.

Wednesday, March 8 agenda items include:

- Update/Recommendation on The Dalles Spill
- Update on Spring Creek Hatchery Release
- Chum Information
- Fall Chinook Forecasts
- COE Modeling of possible Flood Control Shift to Grand Coulee

Other

Tony Norris, BOR, reported that the Lake Roosevelt Forum will be held on April 17-18, with an opportunity for work group meetings on Wednesday, April 19. Links to the sessions and registration can be found at www.lrf.org.

Technical Management Team Meeting

February 22, 2006

1. Greetings and Introductions.

Today's Technical Management Team meeting was chaired by Cathy Hlebechuk and facilitated by Donna Silverberg. the following is a summary (not a verbatim transcript) of the topics discussed and decisions made at this meeting. Anyone with questions or comments about these notes should contact Hlebechuk at 503-808-3936.

2. Columbia River System Flood Control Review Recon Report.

Lonnie Mettler led this presentation, noting that the Corps' recon-level system flood control review report has been available since early February; comments on the report are due to the Corps by March 13. He said the purpose of the report is to gauge the level of regional interest in proceeding to the next phase of the flood control study. Mettler touched on the following topics:

- Recommendations: establish the federal interest in conducting the study, set actions to satisfy objectives, gauge regional support
- The flood control study evolved from the 2000 BiOp; in 2003, Senate committee language directed the Corps to use CRFM funds to initiate a recon-level study. The litigation on the 2004 BiOp also provided some impetus to conduct this study. there is regional interest in continuing the study.
- Purpose and scope: consider potential modifications to Columbia River flood control operations; consider how possible modifications would benefit the Columbia River ecosystem; continue to maintain acceptable levels of protection from damaging floods; continue to recognize all project purposes.
- Assumptions: The initiation of the feasibility study is dependent on favorable agency review and Congressional notification; biological benefits are linked to attaining flow objectives for fish; FS alternatives will involve change in reservoir regulation to include Canadian storage regulation; all authorized project uses will be fully considered when formulating alternatives
- New flood damage curves will need to be developed; potential structural and/or operational modifications can be made at operating facilities or elsewhere in the basin to offset some if not all of the increased flood risk. Acceptable levels of flood control may need to be re-assessed. A non-federal sponsor will not be identified; funding for the feasibility study will be cost-shared through hydropower ratepayer contributions.
- Phased approach: Phase I will focus on whether there is water available to achieve environmental benefits needed for the fisheries. Activities include hydrological evaluation, limited economic/engineering evaluations, limited environmental studies, most model-based
- Phase II will focus on whether the environmental benefits justify the costs associated with changes to the flood control operation.
- Phase III will focus on whether there are environmental benefits that can be realized in a cost-effective manner.
- Phase IV will involve the completion of the feasibility report and the EIS on the preferred alternative.
- Timeline: submit recon-level report by summer 2006; complete the project management plan by the spring of 2007; initiate the feasibility study by the spring of 2007; complete the feasibility study by fall 2012.
- Summary: prior to proceeding to the feasibility study, the Corps is asking the region to review and provide support for further actions. It is important that the region understand the significant commitment required not only in the time it will take to answer some very critical questions on the benefits of flow to improved fish passage, but also the costs associated with doing so.

In response to a question, Mettler said the current estimate of the cost of the system flood control study is about \$30 million; the source of funding will

likely be the CRFM program. The group devoted a few minutes of discussion to how that \$30 million would be allocated among the four phases of the study process.

Does it take Congressional action to change flood control operations? Paul Wagner asked. Yes, Mettler replied – that is especially true given the increased development that has taken place in the flood plain throughout the Columbia River basin. One of the questions we're going to have to answer is, what is an acceptable level of flood control today? Mettler said. Tony Norris added that the Corps' current goal, when they compute the initial control flow, is 200 Kcfs. My understanding is similar, said John Wellschlager – that 200 Kcfs is actually below what the BiOp calls for in terms of fish flow, so there is a bit of a disconnect there. Also, in recent years, people have been encroaching on the flood plain, so our calculations about where that flood plain lies will have to be re-done. That is a question that, ultimately, will have to be addressed, Mettler agreed – we're going to have to look at a range of alternatives, and investigate what can be implemented, feasibly.

In response to a question from Hlebechuk, Mettler said the Corps would normally seek a non-federal partner to help fund this type of study, but will not do so in this case. In response to another question, Mettler said many of the anticipated biological benefits associated with changing flood control operations would accrue during average and below-average water years.

How will you handle comments from some of the key players, such as Reclamation and NMFS? Norris asked. Until we see what your issues and concerns are, our intent is to summarize those in a separate attachment, rather than re-writing the report, Mettler said. If some meetings are needed to discuss significant issues, we can schedule some face-to-face meetings to discuss them, he added. Bear in mind that this is just a recon-level report – it isn't a decision document. Don't forget tribal consultation, said Kyle Dittmer. Or the people who will be paying for the study – Bonneville ratepayers, said Tom Haymaker. How have you reached out to those ratepayers? To date, we haven't, Mettler replied – again, this is just a recon-level report, not a decision document.

When was the most recent flood control study done? Dan Spear asked. There was a study that looked at possible flow at The Dalles, and the impacts to flood damage reduction, Mettler replied; however, it didn't address the benefits, or other projects in the system. I believe that study was completed in 1996 or 1997, he added. What if the studies indicate that actions need to be taken to provide adequate flood control that are actually detrimental to fish – will that be considered? Haymaker asked. Yes, Mettler replied – there will likely be hundreds of alternatives identified, and it won't be possible to study them all in detail. Our intent is to focus on the alternatives that potentially benefit both fish and flood control, he said.

3. Dworshak Flood Control Shift to Grand Coulee.

Hlebechuk said the Corps was wondering whether the salmon managers are interested in a Dworshak-Grand Coulee flood control shift in 2006. Yes, Russ Kiefer replied – the salmon managers do feel that would be desirable in 2006. So noted, Hlebechuk said – we'll discuss the actual operation at the next TMT meeting.

4. Spring Creek Hatchery Release, SOR 2006-01.

David Wills provided an overview of this SOR. It requests the following specific operations:

- No operation of unscreened units at PH2 and follow the turbine operating priority in the Fish Passage Plan
- Operate PH2 as the first priority. Fully load PH2 before operating PH1
- Operate turbine units within 1% peak efficiency
- Operate juvenile and adult facilities according to criteria
- Beginning March 3, operate Bonneville to maintain a minimum 14.5-foot tailwater elevation. This elevation is sufficient to allow 50 Kcfs spill while maintaining a maximum TDG level of 105% at the chum redds in the Ives Island complex and at Multnomah Creek
- Beginning March 3, monitor sub-samples at the Hamilton Island juvenile monitoring facility. When this subsampling indicates that large numbers of subyearling chinook have reached Bonneville Dam, contact the RCC to begin spill and B2CC operation.
- Operate for five days at 50 Kcfs spill and B2CC operation, or to an estimated 95% fish passage index, whichever comes first.
- At no time exceed 120% TDG measured at the downstream Warrendale gauge, or 115% at the Camas/Washougal gauge.
- Request that the action agencies use the flexibility in the system to accomplish this SOR without jeopardizing the April 10 flood control rule curve elevations called for in the Biological Opinion.

The group devoted a few minutes of discussion to the nuances of this SOR, and to the empirical information underlying the specific operations it calls for. Hlebechuk said the Corps does not support spilling in 2006 because there was an agreement between COE, USFWS and BPA that there would be no spill in 2005 or 2006. We feel that agreement is still in place, and do not believe there was an agreement to compare spillway vs. B2CC survival, she said. The agreement Cathy is referencing was hammered out between Bill Shake of the Fish and Wildlife Service, Greg Delwiche of BPA and Witt Anderson of the Corps, Wellschlagger added. Hlebechuk said another reason the Corps does not support this SOR is because the Corps does not see the same problems with corner collector performance the Fish and Wildlife Service does.

Wellschlager said BPA recommends elevating this issue to the IT, given the fact that it is a policy-level issue. It sounds as though you're saying it is a question of policy based on the language of the agreement, rather than a disagreement about the technical information, Wills observed. That's part of it, Wellschlager replied – we have an agreed-upon operation; if the salmon managers want to change that operation, they will need to elevate it.

Ultimately, it was agreed to elevate this issue for IT decision, probably at an emergency call this Friday; it was further agreed that the policy question boils down to whether or not the agreement between the Corps, Bonneville and the Fish and Wildlife Service clearly says there will be no spill in 2006, even if data indicate a problem with the performance of the corner collector alone. The question to IT was eventually framed as follows: "Should spill be utilized in the 2006 Spring Creek Hatchery release?" The background information can be found on page 4 of the SOR. "In light of this agreement, is this problem significant enough – does the difference in fish passage efficiency noted in the 2004 hydroacoustic test results, 9 percent – warrant spill in 2006, or was the intent of the agreement to preclude spill under any circumstances in 2006?" Silverberg said she will contact the IT to see when they will be available to consider this question.

In response to a question, Wills reminded the group that the 2004 Spring Creek Hatchery March release of 7.5 million fish was split into two release groups – one that was passed using the corner collector alone, and the other that passed Bonneville via spill. The three-year-olds from those release groups will return in the fall of 2006; once those return data are available, there will be more information about the relative performance of the two release groups. Wellschlager noted that the above-referenced agreement was predicated on Bonneville's willingness to provide spill in support of the 2004 Spring Creek release – the agreement was that Bonneville's ratepayers would essentially "pay up front" in 2004, with the understanding that there would be no Spring Creek spill provided in 2005 or 2006.

5. 2006 Columbia River Fall Chinook Forecasts.

Wills said Cindy LeFleur presented this information at last week's FPAC meeting; essentially, the 2006 numbers predict a dramatic downward trend in fall chinook returns, primarily due to uncertainties about ocean conditions. The 2006 pre-season forecast is now 464,600 fish, down from a 2005 return of 554,900 and a 2005 pre-season forecast of 650,000 fish. LeFleur's numbers note that most of the discrepancy between the 2005 pre-season forecast and actual return was found in the upriver bright component of the run – the pre-season forecast was 352,400 fish, while the actual return was 268,700 fish. Wellschlager noted that the fact that the Bonneville Pool Hatchery component of the run is predicted to be only about half of the 10-year average in 2006 is a pretty strong indicator

that ocean conditions are to blame, because those fish only have to pass one dam to reach the hatchery.

6. *Chum.*

Rick Kruger said there is nothing new to report on chum at today's meeting; he said he will provide the results of the scale analysis year class breakdown at the next TMT meeting.

7. *Status of Litigation.*

Hlebechuk said there is nothing new to report on this topic at today's meeting.

8. *2006 Water Management Plan.*

Hlebechuk said there is little change to the Water Management Plan; the Corps is still waiting for comments and the Implementation Plan. She said she had hoped to finalize the fall/winter update at today's meeting, as discussed at the February 1 TMT meeting, noting that she still needs to update some of the numbers based on the most recent forecast data. Wills said he doesn't believe he has any significant comments on the fall/winter update; it would probably be OK to finalize it at today's meeting. COE anticipated finalizing the Fall/Winter update this afternoon. TMT was requested to provide any final input to the Fall/Winter update by the end of today, which COE would include in the final plan. It was recognized the update would be revised as new forecasts were developed monthly. Hlebechuk said she will be adding the category 3 list Russ Kiefer provided yesterday to the emergency protocols list.

9. *Status of Fish Transport Permit from NOAA.*

The Corps sent in the request for the one-year transport permit extension, Hlebechuk said; Paul Wagner is working on it. I am, Wagner said; typically it's a five-year permit cycle. This year, given the remand process, we're reviewing it as a one-year proposal. The new BiOp will eventually extend the permit for five to 10 years, he added. In the process, the remand will essentially function as a public review of the transport program. I'll be making sure the people who are working on the remand understand that, Wagner added.

10. *Status of Lower Snake Dredging.*

The dredging is going well, Hlebechuk said; the in-water work window ends in February, and our expectation is that we'll be able to operate the Lower Snake projects at MOP this spring.

11. Status of B2 Corner Collector and Full-Flow Bypass PIT Detection System.

This work is coming along well, Hlebechuk said; BPA was able to provide the tailwater elevations needed to complete the work by March 2. The screens will also be installed by March 2, and the full-flow bypass will be operational. Everything is looking good, she said.

12. Status of Ice Harbor Spillway Deflector Injury Testing Balloon Tag Study.

Jim Cain said this test is scheduled for March; its purpose is to determine fish injury, if any, under three different spillway operations. The testing will take place from March 5-8 and March 13-23. It will be necessary to use some reservoir storage from all four Lower Snake dams to produce the various tailwater elevations needed for the test; McNary forebay will need to be drafted to about elevation 336 to produce the lowest tailwater elevation at Ice Harbor. It was agreed that the salmon managers will communicate any concerns they may have to the Corps.

13. Spill at The Dalles During Wire Rope Replacement.

Hlebechuk said that, at the last TMT meeting, Lance Helwig described the wire rope replacement for bays 1-9; all of these bays will be available for spill by May 15. There will be some limitations on spilling in bays 1-7; if flows exceed 315 Kcfs during that period, in order to spill 40% of total river flow, spill will need to occur at other bays. If that occurs, we will coordinate that operation with FPOM and the salmon managers, Hlebechuk said. Gary Fredricks suggested that we reduce the percentage of spill if that occurs, said Wagner; that would be NOAA Fisheries' technical recommendation. We will coordinate further, through whatever process or venue is appropriate, if total river flow exceeds the threshold prior to May 15, he added. We will revisit this topic at the March 8 TMT meeting, Silverberg said.

Does Gary's recommendation also apply once bays 1-9 are available? Hlebechuk asked. Yes – he wants to see spill confined to the north side of the dam, Wagner replied. Hlebechuk said she has an issue paper on this topic which she will distribute to further inform the discussion at the March 8 TMT meeting.

Norris said the Lake Roosevelt Forum will be meeting on April 17 and 18 this year; www.lrf.org is the website for those who wish to sign up and view the presentation topics. It may be possible to hold a TMT meeting in conjunction with the Forum on Wednesday, April 19, if the group so desires, Norris said. It was agreed that this is unlikely.

14. Operations Review.

Norris said Grand Coulee is currently at elevation 1261.5 feet; Hungry Horse is at 3532 feet and drafting. Hungry Horse is currently releasing 7.5 Kcfs, but will be ramping down to 4 Kcfs by some time next week. Hlebechuk said Libby is currently at elevation 2411.3, targeting elevation 2412.1 by February 28. The project is at minimum outflow and drafting slowly. Dworshak is at 1525.9 feet, drafting gradually toward its February 28 flood control elevation of 1524.2 feet. the project is releasing 5 Kcfs-7 Kcfs, currently. Bonneville has been releasing 165 Kcfs-195 Kcfs over the last week.

Wagner said there is nothing new to report on the fish front at today's meeting. Wellschlager said there are no power system issues to report; Adams said there are no current water quality problems in the system.

15. Next TMT Meeting Date.

The next meeting of the Technical Management Team was set for Wednesday, March 8. Meeting summary prepared by Jeff Kuechle, BPA contractor.

**TMT PARTICIPANT LIST
February 22, 2006**

Name	Affiliation
David Wills	USFWS
John Wellschlager	BPA
Dan Spear	BPA
Kyle Dittmer	CRITFC
Shane Scott	S. Scott Consulting
Tim Heizenrater	PPM
Donna Silverberg	Facilitation Team
Robin Harkless	Facilitation Team
Cathy Hlebechuk	COE
Jim Adams	COE
Rick Kruger	ODFW
Tony Norris	USBR
Tom Haymaker	PNGC
Paul Wagner	NOAAF

Russ George	WMCI
Lee Corum	PNUCC
John Anasas	BPA
Laura Orr	COE
Lonnie Mettler	COE
Todd Cook	PPM
Ruth Burris	PGE
Don Faulkner	COE
Russ Kiefer	IDFG
Kevin Nordt	Mid-Cs
Don Coffee	
Margaret Filardo	FPC
David Benner	FPC
Nic Lane	Congressional Research Service
Mark Bagdovitz	FWS
Lance Elias	PPL
Bruce MacKay	Consultant
Tom Le	PSE
Richelle Beck	D. Rohr & Associates
Jim Cain	COE